PRINT: ISSN 0973-5070 ONLINE: 2456-6772
Ethno Med, 9(1): 85-87 (2015)
DOI: 10.31901/24566322.2015/09.01.09

Kuppameni: A Potent Herbal Boon for Undernourished Malaysian Indian Plantation Workers

Thanaseelen Rajasakran[1], Santhidran Sinnappan[2] and Sivachandralingam Sundara Raja[3]

[1,2]Department of Mass Communication,
Universiti Tunku Abdul Rahman, Petaling Jaya 46200, Malaysia
[3]Departmentof History, Universiti Malaya, Kuala Lumpur 50603, Malaysia
E-mail: [1]<thanak@utar.edu.my>, [2]<santhidran@utar.edu.my>, [3]<siva@um.edu.my>

KEYWORDS Herbal Benefit. Plant Extract. Tropical. Nutrient. Alternative Drug

ABSTRACT Malaysian Indian plantation workers are economically deprived and suffer from malnutrition. This can be altered by consuming medicinal and nutritional herbs found aplenty in tropical Malaysia. The herb *acalypha indica linn*, or Indian nettle, which has high antioxidants, is of particular interest for Indian estate workers. Antioxidants in the plant help retard toxic free radicals found in the body. Considered an indigenous form of healthcare, consuming this plant on a regular basis has the potential to rejuvenate the health of the under-nourished Indian plantation worker.

INTRODUCTION

The Benefits of Plant Nutrients

Many indigenous cultures use wild plants and herbs on a daily basis for health purposes. However, as Zaika (1975) noted that since the late 19th century many scientific experiments have been carried out to document the antimicrobial (agents which can reduce illness and death from infectious diseases) properties of plants. In fact, the use of these medicinal herbs is becoming increasingly popular in as much as they are free from side-effects often caused by synthetic medicines or drugs.

Globally more than 35,000 plant species have been reportedly used for medicinal purposes (Lewington 1993). In India alone over 6,000 medicinal plants have been found and used in traditional folk medicine – of which about 3,000 are officially recognized (Jagatheeswari et al. 2013).

Unsurprisingly, tropical rain forests plants are biologically and chemically diverse because of their natural defense mechanisms for retarding pests, disease and predators (Jantan 2004). Consequently, tropical medicinal plants are an important source of natural chemicals and medicine. Elliot (1986) noted that about 25 percent of modern drugs have their origins in medicinal plants found in tropical rainforests.

Address for correspondence:
Dr. Thanaseelen Rajasakran
Department of Mass Communication
Universiti Tunku
Abdul Rahman, Petaling Jaya
46200, Malaysia
E-mail: thanak@utar.edu.my

Tropical Malaysia is home to many plants that have the potential of being used for medicinal purposes. For instance, Latiff et al. (1984) observed that almost 16 percent of over 10,000 species of plants found in Malaysia could be used for medicinal purposes. This numbers could be higher because native uses of many plants remain undocumented, and moreover, most knowledge about these plants is passed on orally from generation to generation (Jantan 2004).

In addition, Jantan (2004) notes in most tropical countries there is little systematic research for exploiting the medicinal properties of tropical plants. Besides, most effort is focused on clearing forests for timber or oil palm for commercial purposes (Jantan 2004). In fact, Arthur (1954) was the first to publish a survey of native Borneo plants, and his work subsequently stimulated some research in Malaysia. However, much of the research has been limited to universities and research institutions, mainly funded by the government, with little funding from the private sector and multinationals (Jantan 2004).

In view of this difficulty, the present study's authors proposed that there is no need to invest inefficient effort in discovering how to derive potential drugs from these plants, but instead harness the knowledge pertaining to the nutritional benefits contained in some of these tropical plants --thereby promoting it for the general well-being of under-nourished individuals in many parts of Malaysia. This study focuses on the poor Malaysian Indian estate workers, and how they can benefit from consuming the scientifically known *acalypha indica linn* for better health.

ACALYPHA INDICA LINN DEFINED

This plant is found commonly in India, Sri Lanka, and Africa, as well as in Southeast Asia (Sanseera et al. 2012). Commonly known as the Indian nettle or three-seeded mercury, this herb has different names in various countries; in Indonesia it is known as *lelatang*, in China *tie xian*, and in India *kuppikokli* in Hindi and *haritamanjari* in Sanskrit (Globeinmed 2012). In Malaysia, as in India, this herb is found amidst fields and waste places throughout the country, hence its name *kuppameni* (pearl in the waste) among the Indian community in Malaysia. It is also known as *galak kuching* (Azmahani et al. 2002) in Malaysia. This herb plant is considered a troublesome perennial weed which can grow to a height of 1metre (Sanseera et al. 2012).

Research suggested that this traditional herb is used to treat scabies (Gurib-Fakim et al. 1993), arthritis and relief of ulcer pains (Dhar et al. 1968), healing of wounds (Reddy et al. 2002), as a purgative (Panthong et al. 1991), snake bite anti-venom (for example, Siddiqui and Husain 1990; Samya et al. 2008), and as poultice, with lime or oil (Govindarajan et al. 2008). In India this plant is highly regarded in traditional Tamil *siddha* (traditional) medicine, as it is said to rejuvenate the body because of its anti-oxidant properties (Govindarajan et al. 2008). The traditional *siddhas* prepare a concoction for medicinal use. This herb is also extensively used from Asia to the Polynesia in traditional medicine (Burkill 1985).

A recent study by Sanseera et al. (2012) suggested that this troublesome weed contains a rich source of antioxidant that is helpful in rejuvenating the body. Benefits of antioxidants first surfaced in the 1990s, when researchers found evidence on the role of free radicals in aging, vision loss and cancer (Valko et al. 2006; Sifferlin 2013) Free radicals are a natural byproduct of the body's metabolism because body cells need oxygen to breakdown food for energy, which in turn can cause cell damage. The availability of antioxidants helps minimize cell damage (Sifferlin 2013).

BENEFITING MALAYSIAN INDIAN PLANTATION WORKERS

The Indian diaspora in Malaysia began in the 19th century when the British colonial government wanted to commercialize the rubber plantation resources in the country, and Indians, mostly from South India, were employed in these plantations (Gopal et al. 2006). Later these plantations began to include oil palm. Oorjitham (2001) and O'Holohan (1994) observed that many Indians plantation laborers were and continued to be economically exploited, denied basic amenities, and many die in conditions of abject poverty and malnutrition. Estate children were the worst in physical development as compared generally to children of the urban disadvantaged and rural sectors (Singh 1992). Chee et al. (1992, see also Chandrasekharan and Marimuthu 1980) reported that important nutrients such as thiamin, riboflavin and niacin intake were found low amongst these workers (Chee et al. 1996). There is high prevalence of protein-energy malnutrition, anemia, worm infestations and vitamin deficiencies in the estate communities (Kandiah and Lim 1977; Sinniah et al. 1992). Chee et al. (1996) suggested that vegetables were consumed once a week by the Indian workers by only 38 percent of Indian workers because they are expensive for daily consumption.

Ironically, Chee et al. (1996) had found low alcohol consumption among Indian plantation workers; this phenomenon seemed to be unusual among lower income estate workers. Besides, the researchers also observed that perhaps alcohol consumption may have been under reported because of the social stigma attached to it among lower- income Indians. Chee et al. (1996) stated that consuming alcohol does contribute to excess energy wastage from the body.

Having a high consumption of alcohol and low level of healthy diet, researchers suggested that Indian plantation workers should be educated on the use of the widely available *acalypha indica linn* herb for improving their health. Although, Malaysian scientists have not fully explored the medicinal and nutritional use of this herb, the researchers have suggested that this herb may provide a cost effective approach to improving the nutrition of our under-nourished plantation workers. As noted by Walter (n.d), when its leaves are consumed in moderate quantities, it helps to rid the body of diseases, resulting in good health. He suggested frying the leaves with castor oil consumed over a 45 day period, resulting in a good measure to restore the health of workers who drink.

CONCLUSION

Extant studies have suggested the Indian nettle has been widely used in *sitha* (traditional medicine) practices. The researchers suggested

that the Malaysian Indian plantation workers be given knowledge to consume this widely available herbal plant on a regular basis to improve their health conditions. However, further laboratory tests and clinical studies are needed to better ascertain the herb's potential nutritional qualities.

REFERENCES

Arthur HR 1954. A phytochemical survey of some plants of North Borneo. *J Pharm Pharmacol*, 6: 66-72.

Azmahani A, Somchit MN, Rosyilah AR 2002. In Vitro Anti-bacterial and Anti-fungal Properties of Acalypha indica (Kucing galak). *Proceedings of the Regional Symposium on Environment and Natural Resources*, Kuala Lumpur, 10th-11th, April 2002, pp. 503-508.

Burkill HM 1995. *The Useful Plants of West Tropical Africa.* Volumes 1-3. 2nd Edition. Kew: Royal Botanic Gardens.

Chandrasekharan N, Marimuthu T 1980. An inquiry into the state of food, nutrition and health in plantations. *Med J Mal*, 37(3): 226-229.

Chee SS, Zawiah H, Ismail MN, Ng KK 1996. Anthropometry, dietary patterns and nutrient intakes of Malaysian estate workers. *Mal J Nutr*, 2(2): 112-126.

Dhar ML, Dha MM, Dhawan BN, Mehrotra BN, Ray BN 1968. Screening of Indian plants for biological activity: Part 1. *Indian Jour Exp Biol*, 6: 232-247.

Elliot S 1986. Pharmacy needs tropical forests. *Manufacturing Chemist*, 31-34.

Globalinmed 2013. General Information. From <http://www.globinmed.com/index.php?option=com_content&view=article&id=79285:acalypha-indica.> (Retrieved on 15 November 2013).

Gopal PS, Abdul Gapor S, Pandian S 2006. Indian urban poverty in Malaysia: A new phenomenon? The pre and post Malaysian independence perspective. *Asia Pacific Journal of Social Sciences*, 3(1): 32-48.

Govindarajan MA, Jebanesan D, Reetha D, Amsath R, Pushpanathan T, Samidurai K 2008. Antibacterial activity of Acalypha Indica L. *Eur Rev Med Pharmacol Sci*, 12(5): 299-302.

Gurib-Fakim A, Sewraj M, Gueho J, Dullo E 1993. Medicalethnobotany of some weeds of Mauritius and Rodrigues. *Journal of Ethnopharmacology*, 67: 253-258.

Jagatheeswari D, Deepa J, Ali HSJ, Ranganathan P 2013. *Acalypha indica L*- An Important Medicinal Plant: A Review of its Traditional Uses, and Pharmacological Properties. *International Journal of Research in Botany*, 3(1): 19-22.

Jantan I 2004. Medicinal plant research in Malaysia: Scientific interests and advances. *Journal Sains Kesihatan Malaysia*, 2(2): 27-46.

Kandiah N, Lim JB 1977. Nutritional status in a rural estate community. *Med J Mal*, 31(4): 270- 275.

Lattif AG, Omar IM, Said AK 1984. A multivariate approach to the study of medicinal plants in Malaysia. *Journal of Singapore Natural Academy of Science*, 13: 101–105.

Lewington A 1993. *Medicinal Plants and Plant Extracts: A Review of their Importation into Europe*. Cambridge, UK: Traffic International.

O'Holohan D 1994. *Plantation Medicine*. Kuala Lumpur: United Selangor Press Sdn Bhd. pp. 19-30.

Oorjitham S 2001. Forgotten Community: Many of Malaysia's Poor are Indians. From <http://library.perdana.org.my/Digital_Content/Serials/AWEEK/2001/JAN/25.pdf> (Retrieved on 9 November 2013).

Panthong A, Upadhyay SR, Ashwani K 2007. Traditional uses of medicinal plants among the rural communities of Churu District in the Thar Dessert, India. *Journal of Ethnopharmacology*, 31: 121-156.

Reddy JS, Rao PR, Reddy MS 2002. Wound healing effects of Heliotropium Indicum, Plumbago Zeylanicum and Acalppha Indica in rats. *Journal of Ethnopharmacology*, 79: 249- 251.

Samya RP, Thwina MM, Gopolakrishnakone P, Ignacimuthu 2008. Ethnobotanical survey of folk plants for the treatment of snakebites in southern part of Tamilnadu, India. *Journal of Ethnopharmacology*, 115: 302-312.

Sanseera D, Niwatananun W, Liawruangrath B, Liawruangrath S, Baramee A, Trisuwan K, Pyne SG 2012. Antioxidant and anticancer activities from aerial parts of Acalypha Indica Linn. *Chiang Mai University Journal of Natural Sciences*, 11(2): 157-168.

Siddiqui MB, Husain W 1990. Traditional antidotes of snake poison in northern India. *Fitoterapia*, 61(1): 41-44.

Sifferlin, A 2013. The Truth About Antioxidants. From <http://healthland.time.com/2013/08/06/the-truth-about-antioxidants/> (Retrieved on 12 November 2013).

Singh PJ 1992. Effect of socio-economic factor on growth of plantation children. *Mal J Soc Health*, 10(1): 27-35.

Sinniah B, Rajeswari B, Johari S, Rohela M, Subramaniam K, Ramakrishnan K 1992. Geohelminths, protozoa and anemia amongst estate children in Selangor. *Mal J Soc Health*, 10(1): 37-43.

Valko, M, Rhodes, CJ, Moncol, J, Izakovic, MM, Mazur, M 2006. Free radicals, metals and antioxidants in oxidative stress-induced cancer. *Chemico-biological Interactions*, 160(1): 1-40.

Walter Thomas (n.d.). Review of Acalypha indica, Linn in Traditional Siddha. From <Http://www. Academia. Edu/1410079/Review_of_ Review_of_ Acalypha_ Indica_ Linn_ in_Tradition al_ Siddha_ Acalypha_ indica_Linn_ in_ Traditional_Siddha_Medicine.> (Retrieved on 9 November 2013).

Zaika LL 1975. Spices and herbs: Their antimicrobial activity and its determination. *Journal of Food Safety*, 9: 97-118.